

**POLITY****Bills to Include PVTGs of Odisha, A.P in Scheduled Tribes Lists****Why in News?**

- Rajya Sabha passed the Constitution (STs) Order Amendment Bill 2024 and the Constitution (SCs and STs) Order Amendment Bill 2024, presented by the Ministry of Tribal Affairs.
- This cleared the way for the addition of several new communities to the STs list of Odisha and the inclusion of synonyms and phonetic variations of existing tribes in the ST lists of both Andhra Pradesh and Odisha.

**About the Bills**

- Among the additions were notably seven Particularly Vulnerable Tribal Groups (PVTGs) (a subset of STs) - four in Odisha and three in Andhra Pradesh.
  - The independent names of these PVTGs had been specifically added as synonyms or sub-tribes of communities already on the ST lists of these States.
- In Odisha, the PVTG communities added are -
  - Pauri Bhuyan and Paudi Bhuyan as synonyms of the Bhuyan tribe;
  - The Chuktia Bhunjia as a synonym of the Bhunjia tribe;
  - The Bondo as a sub-tribe of the Bondo Poraja tribe; and
  - The Mankidia as a synonym for the Mankirdia tribe.
- In Andhra Pradesh, the PVTG communities included Bondo Porja and Khond Porja as synonyms of the Porja tribe and the Konda Savaras as a synonym for the Savaras tribe.
- These groups belong to PVTGs and have been included in the scheduled list after 75 years of independence.

**Other Additions and Changes**

- In addition to this, the Bill to amend Odisha's ST list also shifted two entries - Tamadia and Tamudia - from the Scheduled Castes list to the Scheduled Tribes list.
- The Bill also added synonyms, phonetic variations and sub-tribes of at least eight existing communities in the State's ST list.
- Further, Odisha's ST list was expanded by adding two communities to it as new entries. These are -
  - The Muka Dora community (and synonyms) in undivided Koraput District which includes Koraput, Nowrangapur, Rayagada and Malkangiri districts; and
  - The Konda Reddy (and synonyms) community.

**Who are the PVTGs?**

- According to the Ministry of Tribal Affairs (MoTA), India has 75 PVTGs, who are characterised by -
  - Pre-agriculture level of technology,
  - Stagnant or declining population,
  - Extremely low literacy, and
  - Subsistence level of economy.
- PVTGs were recognised as a separate category based on the findings of the 1961 Dhebar Commission.
- In 1975, there were 52 PVTGs and the list had been expanded to 75 across 18 states and Union Territories.
- Data from the MoTA and the 2011 Census shows that Odisha has the largest population of PVTGs at 8.66 lakh, followed by MP at 6.09 lakh and Andhra Pradesh (including Telangana) at 5.39 lakh.
- The total PVTG population is more than 40 lakh and the largest PVTG is Odisha's Saura community, numbering 5.35 lakh.

**Recent Government Efforts for the Welfare of the PVTGs**

- The Union Budget 2023-24 announced the launch of the PM PVTG Development Mission.
  - This will saturate PVTG households and habitations with basic facilities such as safe housing, clean drinking water and sanitation, improved access to education, health and nutrition, etc.
  - An amount of Rs.15, 000 crore will be made available to implement the Mission in the next three years under the Development Action Plan for the Scheduled Tribes (DAPST).
- The PM-JANMAN (Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan) has been launched to enhance the socio-economic conditions of PVTGs.
  - The Union Cabinet during November 2023 approved PM JANMAN with total outlay of Rs.24, 104 crore (Central Share: Rs.15, 336 crore and State Share: Rs.8, 768 crore) to be implemented during FY 2023-24 to 2025-26.
  - The PM-JANMAN (comprising Central Sector and Centrally Sponsored Schemes) to focus on 11 critical interventions through 9 Ministries.

- The government has been consistently following up with respective State governments over the declining populations of several PVTG communities across the country.

**GEOGRAPHY**

**Atmospheric River Brings Heavy Rain to California**

**Why in News?**

- Southern California has been inundated with massive rainfall, with the risk of landslides rising on the soaked ground.

**What is an Atmospheric River?**

- An atmospheric river is a plume of moisture, or water vapour that moves from the tropics and is dumped over a region as heavy rain or snow.
- Atmospheric rivers are narrow bands that tend to occur on the eastern side of strong mid-latitude storms.
- On average, the Earth has four to five active atmospheric rivers at any time. Each moves the equivalent of the liquid water that flows through the mouth of the Amazon River.
- When this atmospheric river reaches land, it releases moisture, producing heavy snow and rain.
- The rain that hit California is part of a weather system called the Pineapple Express, which is an atmospheric river that originates in the subtropical waters around Hawaii.

**The science behind atmospheric rivers**

An atmospheric river (AR) is a flowing column of condensed water vapor in the atmosphere responsible for producing significant levels of rain and snow, especially in the Western United States. When ARs move inland and sweep over the mountains, the water vapor rises and cools to create heavy precipitation. Though many ARs are weak systems that simply provide beneficial rain or snow, some of the larger, more powerful ARs can create extreme rainfall and floods capable of disrupting travel, inducing mudslides and causing catastrophic damage to life and property. Visit [www.research.noaa.gov](http://www.research.noaa.gov) to learn more.

A strong AR transports an amount of water vapor roughly equivalent to 7.5–15 times the average flow of water at the mouth of the Mississippi River.

ARs are a primary feature in the entire global water cycle and are tied closely to both water supply and flood risks, particularly in the Western U.S.

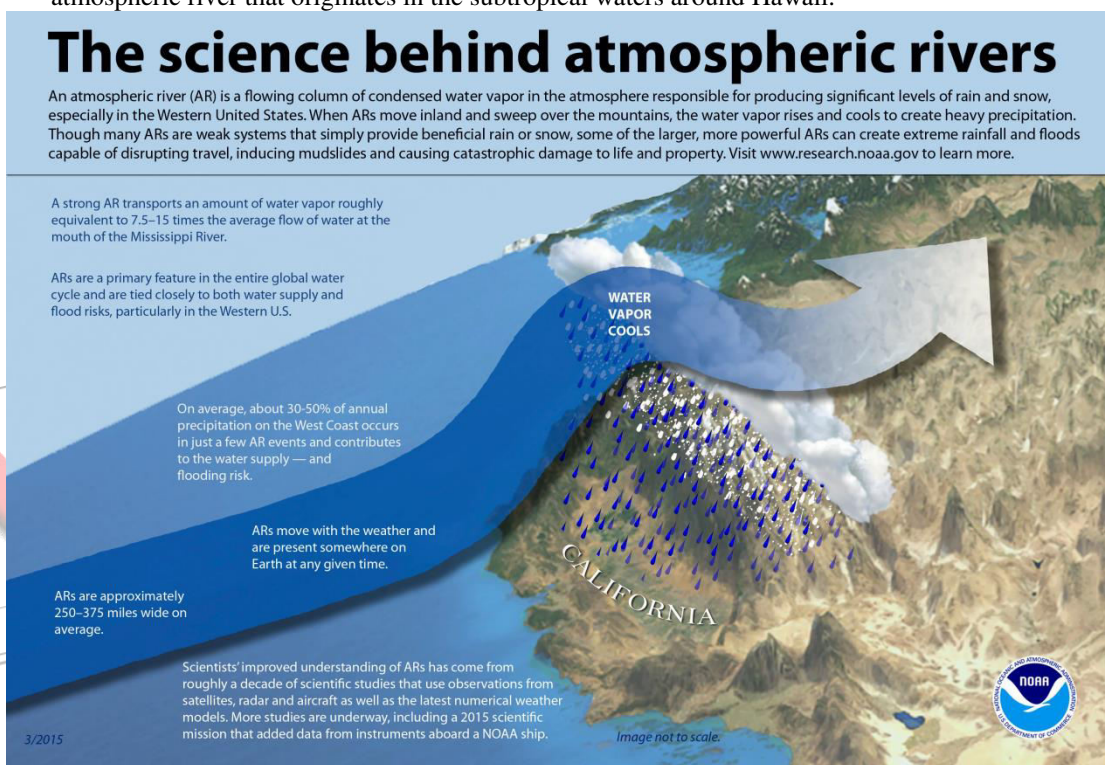
On average, about 30-50% of annual precipitation on the West Coast occurs in just a few AR events and contributes to the water supply — and flooding risk.

ARs move with the weather and are present somewhere on Earth at any given time.

ARs are approximately 250–375 miles wide on average.

Scientists' improved understanding of ARs has come from roughly a decade of scientific studies that use observations from satellites, radar and aircraft as well as the latest numerical weather models. More studies are underway, including a 2015 scientific mission that added data from instruments aboard a NOAA ship.

*Image not to scale.*



**How Long do Atmospheric Rivers Last?**

- Studies have found that atmospheric rivers generally last 20 hours over an area along the coastline.
- A single atmospheric river can move around in the ocean for up to five days.
- And that an atmospheric river can cause a single location along the coast to be inundated with heavy rainfall from 12 to 72 hours.

**How Does El Niño Affect Atmospheric Rivers?**

- El Niño is a naturally occurring climate pattern characterized by abnormally warm ocean waters in the tropical Pacific that drives heavy rains and storms.
- An average of seven to 10 strong atmospheric rivers make landfall in California each year.
- El Niño years tend to bring a higher level of moisture and make atmospheric rivers along the West Coast of the U.S. more frequent.
- However, it is not clear whether El Niño is the sole driver behind more precipitation and higher storm intensity.

**How Does Climate Change Affect These Storms?**

- There are three main ways that climate change could affect atmospheric rivers in the future:
- More rain: Experts say a warmer atmosphere in the future will hold more moisture, which could lead to more precipitation and an intensification of storms.

- More frequent and more intense: Atmospheric rivers already account for nearly 90 percent of California's flood damage. Research suggests that as temperatures warm, atmospheric rivers could occur in closer succession and drop more rainfall in a season.
- Less snow: As temperatures warm, some research suggests that instead of snow, the rivers could bring rain to certain regions.

**How will the Atmospheric River Help the Region?**

- Before two consecutive wet years including the present one, California had experienced drought conditions for decades.
- California's water year is measured from October to September. The rainfall, thus, is welcome.

**PRELIM FACTS****1. Codex Committee on Spices and Culinary Herbs**

- The 7th session of the Codex Committee on Spices and Culinary Herbs (CCSCH) was held from 29th January 2024 to 2nd February 2024 at Kochi.

About Codex Committee on Spices and Culinary Herbs:

- It was established as one of the Commodity Committees under the Codex Alimentarius Commission (CAC) in 2013.
- India has hosted this prestigious Committee since the beginning and Spices Board India serves as the secretariat organization which organizes the Committee's sessions.
- In CCSC 7th session quality standards for 5 spices, namely small cardamom, turmeric, juniper berry, allspice and star anise were finalised.

Codex Alimentarius Commission:

- It was jointly established by FAO and WHO.
- It is an international, intergovernmental body which is based in Rome.
- Members: It consists of 189 member countries.
- Membership of the Commission is open to all Member Nations and Associate Members of FAO and WHO which are interested in international food standards.
- The Commission meets in regular sessions once a year, alternating between Geneva and Rome.
- Funding: The programme of work of the Commission is funded through the regular budgets of WHO and FAO, with all work subject to the approval of the two governing bodies of the parent organisations.
- The Commission works in the six official languages of the UN.
- The standards of CAC are recognized by the WTO as international reference points for the resolution of trade disputes concerning food safety and consumer protection.
- The standards developed by the Committees under the CAC, including the CCSC, are voluntary in nature, which the member countries of the CAC adopt and use as reference standards to align their national standards.
- The works of CAC contribute to harmonization of food standards across the globe, facilitate fair global trade in food, and enhance food safety to safeguard the health of global consumers.

**2. Rule of 'Reading Down' the Clause**

- The Supreme Court recently observed that if a plain reading of a clause fulfills the object and purpose of the statute, then the rule of 'Reading Down' the clause would not be applied just because the clause imposes harsher consequences.

About 'Reading Down' the clause:

- "Reading Down" provision is one of the many methods the court may turn to when it finds that a particular provision, if for its plain meaning, cannot be saved from invalidation.
- It refers to a legal interpretation approach where a court, while examining the validity of a statute, attempts to give a narrowed or restricted meaning to a particular provision to uphold its constitutionality.
- When a court encounters a provision that, if interpreted according to its plain and literal meaning, might lead to constitutional or legal issues, the court may opt to read down the provision.
- Reading down involves construing the language of the provision in a manner that limits its scope or application, making it consistent with constitutional or legal principles.
- So, by restricting or reading it down, the court makes it workable to salvage and save the provision from invalidation.
- This principle is rooted in the idea that courts should make every effort to preserve the validity of legislation and should only declare a law invalid as a last resort.
- The rule of "Reading Down" is only for the limited purpose of making a provision workable and its objective achievable.

### **3. Aldabra rail**

- The flightless Aldabra rail went extinct over 130,000 years ago, but the species then reappeared via iterative evolution.

About Aldabra rail:

- Scientific name: *Dryolimnas cuvieri aldabranus*
- It lives on a coral atoll off the southeast coast of Africa.
- Appearance: It's about the size of a chicken, with a flecked gray back, a rusty red head and chest and a white throat.
- It is a subspecies of the white-throated rail (*Dryolimnas cuvieri*) and is the only living flightless bird in the Indian Ocean.
- In losing its ability to fly once again, the Aldabra rail has essentially evolved twice, rising from the dead through a process called iterative evolution.
- A 2019 study published in the Zoological Journal of the Linnean Society examined the fossil record of rails in Aldabra and found evidence of a flightless rail on the atoll from before it was submerged beneath the waves 136,000 years ago.

What is Iterative evolution?

- Iterative evolution can be defined as "the repeated evolution of a specific trait or body plan from the same ancestral lineage at different points in time."

### **4. Obelisks**

- Scientists recently uncovered a never-before-seen class of virus-like entities named obelisks in the human body.

About Obelisks:

- It is a newly discovered class of virus-like entities present in the human body.
- It comprises a class of diverse RNAs that have colonized and gone unnoticed in human and global microbiomes.
- Named after the highly symmetrical, rod-like structures formed by their twisted lengths of RNA, the Obelisks' genetic sequences are only around 1,000 characters (nucleotides) in size.
- These mysterious bits of genetic material have no detectable sequences or even structural similarities known to any other biological agents.
- They're also significantly larger than other genetic molecules that coexist inside cells, from plants to bacteria, called plasmids, which are more commonly composed of DNA.
- Obelisks represent their own class of organism. They lie somewhere between viruses and viroids.
- Although the hosts of other obelisks remain unknown, there is a possibility that some of them may be found in bacteria.
- Different types of Obelisks appear to be present in different areas of our bodies.

What are Viroids?

- Viroids are tiny loops of RNA, a genetic cousin of DNA, and they've been found to infect primarily plants.
- Viroids differ from larger, RNA-based viruses in several ways.
  - First, they're naked, lacking the protective shells that viruses use to hold their genetic material.
  - Second, their RNA doesn't contain instructions to build proteins; whereas viruses carry instructions for their outer shells and for certain enzymes they need to replicate, viroids co-opt these enzymes from their hosts.

### **5. National Research Foundation**

- Despite approving a Bill to set up a National Research Foundation (NRF) to boost scientific advancement in the country just eight months earlier, the Union government was silent on allocation for the institution or progress made so far in the interim budget for 2024-25.

About National Research Foundation:

- It is an apex body to provide high-level strategic direction of scientific research in the country in accordance with the recommendations of the National Education Policy (NEP), will be established at a cost of 50,000 crore over the period 2023-28.
- It enhances "India's national research infrastructure, knowledge enterprise, and innovation potential, for scientific pursuit".
- Goals: To increase private sector contributions to research in India and to ensure that a larger portion of government funds go to state universities and colleges.
- Nodal Agency: The Department of Science and Technology (DST) will be NRF's administrative department.
- Governing body:

- The Prime Minister will be the ex-officio President of the Board.
- The Union Minister of Science & Technology & Union Minister of Education will be the ex-officio Vice-Presidents.
- NRF's functioning will be governed by an Executive Council chaired by the Principal Scientific Adviser to the Government of India.
- Functions
  - Forge collaborations among the industry, academia, and government departments and research institutions, and create an interface mechanism for participation and contribution of industries and State governments in addition to the scientific and line ministries.
  - It will focus on creating a policy framework and putting in place regulatory processes that can encourage collaboration and increased spending by the industry on R&D.

**ANSWER WRITING****Q. How do income inequality and lack of access to healthcare contribute to health disparities in India's urban areas? Mention the initiatives taken by the Indian government to address health issues related to urbanization?**

Answer: India has a highly stratified society with a large income gap between the rich and poor. As per OXFAM report the top 10% of the Indian population holds 77% of the total national wealth. This income inequality, which is very sharp in urban areas, along with unequal access to healthcare results in unequal health outcomes.

**Impact of Income Inequality on health disparities in India's urban areas:**

- Financial Barriers: Lack of access to affordable healthcare services, high out-of-pocket expenses, and inadequate health insurance coverage pose significant challenges for individuals with lower incomes.
- Health Behaviours: Income disparities influence health behaviours, with lower-income individuals often facing challenges in accessing nutritious food, engaging in physical activity, and adopting preventive health practices.
- Occupational Health Hazards: Income inequality can lead to occupational health disparities, as lower income individuals often face hazardous working conditions, inadequate safety measures, and limited access to occupational healthcare.

**Impact of lack of access to healthcare on health disparities in India's urban areas:**

- Limited Healthcare Infrastructure: Urban areas experiencing rapid urbanization may face inadequate healthcare infrastructure to cater to the growing population. This results in overcrowded hospitals, long waiting times, and compromised healthcare quality.
- Informal Settlements and Slums: Urban areas often have informal settlements and slums where access to basic healthcare services, sanitation, and clean water is limited, leading to a higher prevalence of diseases and health disparities.
- Unequal access to healthcare: Income inequality creates unequal access to healthcare. Wealthy individuals can afford private healthcare, while poorer individuals must rely on government healthcare, which is often underfunded and understaffed.

**Major healthcare initiatives are:**

- National Urban Health Mission (NUHM): The NUHM launched in 2013 focuses on providing basic healthcare services, including immunization, antenatal care, and treatment for non-communicable diseases, particularly the urban poor.
- Ayushman Bharat: It is a national public health insurance fund of the Government of India that aims to provide free access to health insurance coverage for low-income earners in the country.
- Swachh Bharat Mission (SBM): Launched in 2014, this program aims to make India clean and free from open defecation. The mission includes the construction of toilets, solid waste management, and improved sanitation facilities in urban areas, which can help to reduce the spread of infectious diseases.
- Janani Suraksha Yojana (JSY): Launched in 2005, this program aims to promote institutional deliveries among urban women. The program provides financial incentives to women who deliver in a health facility and provides free transport to the facility.
- Smart Cities Mission: The Smart Cities Mission incorporates a focus on health and well-being, aiming to develop urban areas that provide equitable access to healthcare services, promote a healthy environment, and foster community engagement in health initiatives.

**Conclusion**

Reducing income inequality and improving access to healthcare, education, and better living conditions can help address these disparities and improve overall health outcomes in urban areas. Addressing health issues related to urbanization requires a multi-faceted approach that involves collaboration between different government agencies, civil society organizations, and community groups.

**MCQs**

- Which of the following provisions of the Constitution does India have a bearing on Education?
  - Directive Principles of State Policy
  - Rural and Urban Local Bodies
  - Fifth Schedule
  - Sixth Schedule
  - Seventh Schedule
 Select the correct answer using the codes given below:
  - 1 and 2 only
  - 3, 4 and 5 only
  - 1, 2 and 5 only
  - 1, 2, 3, 4 and 5**
- "Global Gender Gap Report" is published by:
  - World Economic Forum (WEF)**
  - World Health Organization (WHO)
  - International Labour Organization (ILO)
  - UN Population Fund (UNFPA)
- Consider the following statements with respect to the river Chenab:
  - The Chenab River originates from the Karakoram Range.
  - Thirot is one of its tributaries.
  - Ratle Hydroelectric Project is located on the river Chenab.
 How many of the statements given above are correct?
  - Only one
  - Only two**
  - All three
  - None
- Consider the following:
 

Statement-I: The Royal Bengal Tigers of Simlipal boast a distinctive lineage with elevated melanin levels, giving rise to black and yellow interspersed stripes, making them pseudo-melanistic.

Statement-II: Melanism is a genetic condition, that results in increased melanin production, leading to black or nearly black skin, feathers, or hair in animals.

 Which one of the following is correct in respect of the above statements?
  - Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement I
  - Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I**
  - Statement-I is correct but Statement-II is incorrect
  - Statement-I is incorrect but Statement-II is correct
- Regarding the Mera Gaun Mera Dharohar (MGMD) scheme, consider the following statements:
  - It is a national mission on cultural mapping conducted in coordination with the Indira Gandhi National Centre for the Arts (IGNCA) under the Ministry of Culture.
  - Under this scheme, the government has decided to map and document all the villages of the country.
 Which of the statements given above is/are correct?
  - 1 only
  - 2 only
  - Both 1 and 2**
  - Neither 1 nor 2
- Regarding the Sea Cows, consider the following statements:
  - Dugongs dwell in zones such as the Caribbean, Gulf of Mexico, Amazon, East and West Africa.
  - Manatees inhabit coastal regions of the Indian and Pacific Oceans.
  - Both manatees and dugongs have been classified as vulnerable according to the IUCN status.
 How many of the above statements are correct?
  - Only one**
  - Only two
  - All three
  - None
- Regarding the Subika Painting, consider the following statements:
  - This painting style is intricately linked to the Kuki community's cultural history in Manipur.
  - The paintings are done on handmade paper or tree bark.
 Which of the statements given above is/are correct?
  - 1 only
  - 2 only**
  - Both 1 and 2
  - Neither 1 nor 2
- Chimeric Antigen Receptor T-cell (CAR-T) therapy has emerged as an important development in the treatment of which of the following?
  - Auto-immune disorders
  - Tuberculosis
  - Influenza
  - Cancer**
- Consider the following statements regarding the Uniform Civil Code (UCC):
  - UCC means common law on marriage, divorce, land, property, and inheritance for all citizens.
  - Article 44 in the constitution of India deals with UCC.
 Which of the statements given above is/are correct?
  - 1 only
  - 2 only
  - Both 1 and 2**
  - Neither 1 nor 2
- Consider the following statements in the context of the Anusandhan National Research Foundation (ANRF)
  - It will replace Science and Engineering Research Board.
  - Its governing Board headed by Principal Scientific Advisor to the Government of India.
 Which of the statements given above is/are correct?
  - 1 only**
  - 2 only
  - Both 1 and 2
  - Neither 1 nor 2